Remarks

Claims 1 and 14 are amended. Claims 21-26 are newly added. Claims 1-26 will be pending upon entry of this amendment.

This letter is responsive to the Office action of April 13, 2005.

Response to Rejection of Claims Under 35 USC §102

Applicant respectfully requests reconsideration of the rejection of claims 1-3, 6-9 and 11-19 in view of the amendments made to claims 1 and 14.

Claim 1

Claim 1 as amended is directed to footwear comprising

a generally horizontal sole having heel, arch and forefoot sections, and

air flow pumps disposed in said arch and forefoot sections, each air flow pump comprising a generally horizontal tubular pump element defining an interior volume and having opposite ends open to ambient air, and holes in the pump element providing fluid communication between said interior volume and a surface of the footwear adjacent a foot in the footwear,

each pump element being resiliently compressible in a generally vertical direction upon impact of the footwear during walking or running and expansible upon liftoff during walking or running, said resilient compression and expansion causing ambient air to flow through the holes in the pump elements to cool the foot.

Footwear of the present invention includes air flow pumps that are comprised of generally horizontal tubular pump elements. The tubular pump elements cool the feet as the wearer walks or runs. The pump elements have opposite ends open to ambient air and holes in communication with the interior of the footwear.

The pump elements resiliently compress upon impact of the footwear and expand upon liftoff of the footwear. As such, ambient air is pumped through the ends of the pump elements and into the interiors of the pump elements during expansion and the air inside the pump elements, at least in part, is forced through the holes and into the interior of the footwear during compression. This construction allows for continuous flow of air into the footwear, especially at the arch and forefoot sections, as the wearer runs or walks.

Claim 1 is submitted to be unanticipated by and patentable over the references of record, and in particular U.S. Patent No. 4,813,160 (Kuznetz), in that whether considered alone or in combination, the references fail to show or suggest air flow pumps disposed in the arch and forefoot sections comprising pump elements, where each pump element is resiliently compressible in a generally vertical direction upon impact of the footwear during walking or running and expansible upon liftoff during walking or running, thereby causing ambient air to flow through the holes in said one or more pump elements to cool the foot.

Kuznetz discloses a shoe including a horizontal array of plastic tubes 17 embedded in an inner sole 12 of the shoe. Column 4, lines 1-3. Each tube has a leading end cut at an angle to define an air scoop 17L. Column 4, lines 5-9. The air scoop is adapted to intercept cool ambient air and force the air into the tube. Each tube also has a discharge outlet 17T at its trailing end. A sleeve 18 having a relatively small bore effectively reduces the inner diameter of the tube 17 and functions as a flow restrictor. Column 4, lines 19-23. Ports $17P_1$ and $17P_2$ are disposed on each tube 17 in communication with the interior of the shoe. In use, as the wearer picks up his feet, the air scoops 17L pick up cool air and force the air into the tubes 17. The cool air is directed through the ports $17P_1$ and $17P_2$ and into the interior of the shoe because flow through the trailing end is restricted. As the shoe impacts the ground, hot air inside the shoe is forced through the ports and out the discharge outlet 17T. There is no disclosure that the tubes compress or expand to introduce air into the shoe, and there is no suggestion of such an embodiment.

Accordingly, Kuznetz clearly fails to show or suggest footwear including tubular pump elements that are resiliently compressible and expansible for moving ambient air through the holes in the pump elements to cool the foot. Instead, Kuznetz teaches the use of air scoops 17L and sleeves 18 inside the tubes to direct air into the interior of the shoe. Nothing is disclosed about the tubes being resiliently compressible or expansible. Moreover, the tubes 17 in Kuznetz are synthetic plastic tubes made from polyvinyl chloride or similar material. Without more disclosure by Kuznetz, one skilled in the art would not be motivated to make shoes comprising compressible tubes.

The other references of record similarly fail to disclose or suggest all of the elements of claim 1.

For these reasons, claim 1 is submitted to be unanticipated by and patentable over the references of record.

Claims 2-13 and 26 depend either directly or indirectly from claim 1 and are patentable for at least the same reasons as claim 1.

Claim 10

In addition to being patentable for the same reasons as claim 1, claim 10 is further distinguishable over the references of record in that whether considered alone or in combination, the references fail to show or suggest pump elements that are accordion-shaped in transverse cross-section. The Examiner asserts, and applicant rebuts, that the tubes 17 of Kuznetz are pump elements. Regardless, the tubes are clearly circular in cross-section and cannot be said to be accordion-shaped as taught by the present application. Moreover, there is no suggestion to make the tubes accordion-shaped.

Accordingly, for this additional reason, claim 10 is submitted to be patentable over the references of record.

Claim 14

Claim 14 as amended is directed to footwear having a ventilated sole system to cool a foot in the footwear, the footwear comprising:

a generally horizontal sole having an outer sole and an insole providing a surface adjacent the foot; and

an air flow pump positioned in a recess between the outer sole and the insole,

the air flow pump comprising a plurality of generally horizontal tubular pump elements extending generally transverse of the footwear from a medial side of the sole to a lateral side of the sole, said plurality of pump elements being formed as a unit received in said recess,

each pump element of said plurality of pump elements defining an interior volume separate from the recess and separate from the interior volume defined by another pump element,

each pump element of said plurality of pump elements having opposite ends open to ambient air and having a plurality of holes therein providing fluid communication between said interior volume and the surface adjacent the foot,

each pump element of said plurality of pump elements being resiliently compressible in a generally vertical direction upon impact of the footwear during walking or running and expansible upon liftoff, said resilient compression and expansion causing ambient air to flow through the holes in said pump elements to cool the foot.

Claim 14 is submitted to unanticipated by and patentable over the references of record, and in particular Kuznetz, in that whether considered alone or in combination, the references fail to show or suggest footwear comprising an air flow pump received in a recess between the outer sole and the insole, where the air flow pump includes a plurality of pump elements formed as a unit received in the recess and each pump element is resiliently compressible in a generally vertical direction upon impact of the footwear during walking or running and expansible upon liftoff.

As discussed above, Kuznetz fails to show or suggest a pump element that is resiliently compressible and expansible. This alone makes claim 14 patentable over Kuznetz.

Claim 14, is further distinguishable over Kuznetz in that Kuznetz does not disclose an air flow pump including a plurality of pump elements formed as a unit received in a recess. At most, Kuznetz discloses a plurality of separate air flow tubes (not pumps) spaced apart along the length of the shoe, where each tube includes a single tubular element separate from the other tubular elements. Nowhere does Kuznetz disclose or suggest forming a plurality of pump elements as a single unit that is received in a recess.

The other references of record similarly fail to disclose or suggest all of the elements of claim 14.

For these reasons, claim 14 is submitted to be patentable over the references of record.

Claims 15-25 depend either directly or indirectly from claim 14 and are patentable for at least the same reasons as claim 14.

Response to the Rejection of Claims Under 35 USC §103

As stated above, claims 4, 5, 10 and 20 are patentable over the references of record for the same reasons as claims 1 and 14, respectively.

Remarks Regarding New Claims

With regard to claim 21, in addition to being patentable over the references of record for the same reason as claim 14, claim 21 is further distinguishable over the references in that whether considered alone or in combination, the references fail to show or suggest a plurality of pump elements molded as a one-piece unit. As stated above, at most, Kuznetz discloses a plurality of separate air flow tubes spaced apart along the length of the shoe, where each tube includes a single tubular element separate from the other tubular elements.

Similarly, with regard to claim 22, in addition to being patentable over the references of record for the same reason as claim 14, claim 22 is further distinguishable over the references in that whether considered alone or in combination, the references fail to show or suggest a substrate connecting the pump elements. Again, at most, Kuznetz discloses a plurality of separate, unconnected air flow tubes spaced apart along the length of the shoe, where each tube includes a single tubular element unconnected to the other tubular elements.

Conclusion

In view of the foregoing, favorable consideration and allowance of this application is respectfully requested.

* A check in the amount of $150.00 is enclosed in payment of the fee for added claims.

The Commissioner is hereby authorized to charge any deficiency or overpayment of the required fee to Deposit Account No. 19-1345.

Respectfully submitted,

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